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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/488,149	01/20/2000	Wayne V. Sorin	10991682-1	4013

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AGILENT TECHNOLOGIES, INC.
INTELLECTUAL PROPERTY ADMINISTRATION, LEGAL DEPT.
P.O. BOX 7599
M/S DL429
LOVELAND, CO 80537-0599

EXAMINER
WANG, GEORGE Y

ART UNIT	PAPER NUMBER
2882	

DATE MAILED: 11/06/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/488,149	SORIN ET AL.	
	Examiner	Art Unit	
	George Y. Wang	2882	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 October 2002* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,11,12,14 and 15* is/are rejected.

7)☒ Claim(s) *5-10,13 and 16-20* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 January 2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2. Claims 1-4, 11-12, and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sorin (U.S. Patent No. 5,365,335) in view of Iwaoka et al. (U.S. Patent No. 4,856,899, from hereinafter "Iwaoka").

Sorin discloses a device and method of monitoring an optical signal utilizing a heterodyne detection (fig. 3, ref. 200) comprising steps of providing an input signal (fig. 3, ref. 214), a local oscillator signal (fig. 3, ref. 220), combining them (fig. 3, ref. 216),

detecting the combined signal (fig. 3, ref. 12) of heterodyne, intensity and shot noise, and generating an output signal that is indicative of an optical parameter of input signal and includes monitoring a heterodyne signal. Sorin discloses an attenuator (fig. 3, ref. 240) that utilizes information from a feedback circuit (col. 2, lines 38-43) from the output to validate noise reduction via electronic and optical processing.

However, Sorin fails to disclose an attenuator positioned before heterodyne signal combination.

Iwaoka also discloses a heterodyne signal detection device with an amplifier (fig. 5, ref. 2a) positioned before to the input signal is combined with the local oscillator signal to increase the amplitude of the heterodyne signal.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have positioned the attenuator of Sorin immediately after the input port and before the signal combination as suggested by the placement of Iwaoka's amplifier since the noise intensity from the input signal is usually a dominant noise source (fig. 5, ref. 2a). It would have been obvious to one skilled in the art to place an attenuator at a dominant site of noise generation, in this case, before the input signal is combined with the local oscillator signal, decreasing the noise and maximizing the heterodyne signal-to-noise ratio. Attenuators are well known in the art and are widely used to reduce noise levels, maximizing signal to noise ratio in several optical systems. Therefore, whether the attenuator itself is placed immediately following the input signal or after the coupler, the attenuator serves the same purpose, exhibiting functional

equivalency. Furthermore, it is held that the rearranging of parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

Allowable Subject Matter

3. Claims 5-10, 13, and 16-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art of record fails to specifically disclose a heterodyne detection device and method of using that incorporates an attenuator with adjustable levels of attenuation with a step that includes sweeping at an oscillating wavelength range and another step that completely blocks transmission of input in order to calibrate coupler or receiver as a function of wavelength.

Response to Arguments

4. Applicant's arguments filed 21 October 2002 have been fully considered but they are not persuasive.

In response to applicant's argument that there is no teaching or suggestion in Sorin to modify the teachings of Sorin to include the teachings of Iwaoka, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the

test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). In particular, Sorin does not need to identify a teaching or suggestion to place the attenuator at a different position. The motivation to position the attenuator of Sorin immediately after the input signal for is clearly specified in the above rejection.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "the introduction of two different signals") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). In claims 1 and 11, Applicant merely claims "providing" the signals, not necessarily directionally "inputting" them. In claim 14, Applicant admits that Sorin discloses two signal portions, but never claims receiving completely "different signals." Therefore, the Sorin reference seems to completely adequate in its teachings and Examiner maintains rejection.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Y. Wang whose telephone number is 703-305-7242. The examiner can normally be reached on M-F, 8 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 703-305-3492. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

ROBERT H. KIM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800

gw
November 4, 2002